

From Disaster to Resilience: A Comparative Study of Legal Models for Regulating Seismic Risk of Existing Buildings

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Purpose

To research and analyse how existing multi-storey buildings are regulated to promote seismic resilience in different jurisdictions of the world. The aim is to understand if any lessons can be learnt from this international experience to enhance existing building resilience from earthquakes and avoid disaster.

Abstract

While many countries now enforce strong building codes for new constructions to protect against earthquakes, a large amount of existing buildings built before these codes remain highly vulnerable to seismic events. With regularly-evolving knowledge of earthquake risk and an increasing aspiration of the international community to prevent disasters in advance (Sendai 2015-2030), all seismically-active nations face a common yet enduring challenge; how best to regulate for ensuring the highest resilience of existing buildings to avoid future disasters. This research aims to assist by exploring how Italy, Japan and New Zealand regulate existing buildings to increase seismic resilience. A comparative assessment of existing legal frameworks is necessary to understand the strengths and weaknesses of methods used to address this common challenge. By highlighting regulatory models, it is possible to consider how resilience of existing buildings from seismic risk may be implemented and promoted as effectively as possible.

Methodology

Establish the relevant theoretical background for comparative law, disaster risk reduction, resilience, and the general approach to managing risk from existing buildings.



Determine which jurisdictions to examine and conduct a desktop-based research of regulation used for existing buildings in each.



Explain, analyse and compare the legal frameworks.



Evaluate the research conducted and offer any recommendations from the findings to complement the EPB framework in New Zealand.

Areas of Focus



SEDAI FRAMEWORK

FOR DISASTER RISK REDUCTION 2015-2030

Priority One: Understanding Disaster Risk

Safety
Assessments

Seismic Risk
Zones

Risk
Messaging

Priority Three: Investing in Disaster Risk Reduction for Resilience

Improvement
Obligations

Incentives

Building
Inspections &
Maintenance



Projected Outcome

A clearly mapped understanding of the legal frameworks used to enhance the seismic resilience of existing buildings within Italy, Japan and New Zealand. This includes the 'hard' law obligations, such as enforced strengthening and retrofitting, as well as 'soft' law aspects, such as the administrative processes for collecting disaster risk information and how this is practically applied to improve disaster resilience.

Project Contact

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